

## **ABSTRACT OF THE DISCLOSURE**

The invention relates to a method of treating water with activated sludge containing micro-organisms. The method comprises the steps of: preparing an environmentally adapted biomass mixture by adapting the activated sludge to a quantity of water having given characteristics in a single reactor under first levels of aeration, whereby the environmentally adapted biomass mixture acquires the capacity to cause concurrent reactions for BOD removal, nitrification and de-nitrification; and treating a portion of water having substantially the same given characteristics with the environmentally adapted biomass mixture capable of causing the concurrent reactions, in the single reactor under a second level of aeration not higher than the first levels of aeration.